REMARKS

Applicants respectfully traverse the rejection of claims 1, 4, 5, 10-13, 18-20, and 25-34 as anticipated by Tsukahara et al. (U.S. Patent No. 4,827,516). Each of the pending claims recites displaying an envelope curve of a modulated input signal by digitally sampling a modulated input signal in the time-domain, Fourier transforming the digital samples, removing all negative frequency samples or all positive frequency samples from the Fourier-transformed samples, inverse Fourier transforming the sideband-cleaned, Fourier-transformed samples, and calculating the absolute values of the inverse-transformed samples.

Tsukahara et al. does not disclose displaying an envelope curve of a modulated input signal in the time domain. Tsukahara et al. also does not disclose removing all negative frequency samples or all positive frequency samples from Fourier-transformed digital samples of a modulated input in the time domain. Therefore, Tsukahara et al. does not anticipate claims 1, 4, 5, 10-13, 18-20, and 25-34.

Generally, the claimed method and system determines the envelope of a modulated input signal in the time domain. As described in the specification, the envelope of the time domain input signal is useful in determining optimal modulation of a transmitter amplifier. The claimed method of claim 1 Fourier transforms digital samples of the modulated time-domain input signal and removes all positive samples or all negative samples from the Fourier-transformed samples. An inverse Fourier transform is applied to the remaining negative or positive sample set and absolute values of the inverse transformed samples are calculated, thereby resulting in an envelope curve of the modulated input signal in the time-domain. In short, the claimed method and system receives an input signal in the time domain and outputs an envelope curve in the time domain.

While Tsukahara et al. discloses taking an input signal in the time domain, Tsukahara et al. outputs a spectrum envelope as a frequency domain signal. In particular, the official action refers to an extractor 11 (Figure 1) of Tsukahara et al. to disclose the limitations of the claims. As illustrated in Figure 1, the extractor 11 outputs a spectrum envelope expressed as P(f) that is, by definition, a signal in the frequency domain, not the time domain. Figures 2A and Figures 2B illustrate in further detail embodiments of the extractor 11 of Tsukahara et al that also do not disclose an envelope curve in the time domain of a modulated time domain input signal. In particular, the output of the extractors of Figures 2A and 2B is expressed as a

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function SEP (t, fPn). While this function includes a time element t, the time element corresponds to a time pattern of a plurality of spectrum envelopes, all of which are frequency domain spectrum envelopes.

> Equation (44) indicates that i^m (nT) at time nT is a product of the vocal cord vibration spectrum, the sound source intensity, and the vocal tract characteristic spectrum at this time. The resultant i^m (nT) is time frequency pattern SEP(t; fP·n) of the frequency spectrum of input speech signal i(t), wherein t=nT and fP=1/T. Col. 19, lines 10-15.

In other words, while the output of the extractor 11 of Tsukahara et al. in Figures 2A and 2B includes a plurality of spectrum envelopes arranged by a time pattern, the spectrum envelopes are still frequency domain spectrum envelopes, not time-domain envelopes. Thus, Tsukahara et al. does not disclose displaying an envelope curve of a modulated input signal in the time domain.

Furthermore, while Tsukahara et al. discloses extracting a particular frequency range from a Fourier transformed sample set, Tsukahara et al does not disclose removing all negative frequency samples or all positive frequency samples from Fourier-transformed digital samples of a modulated input signal. In particular, extracting a frequency range of a frequency domain signal does not selectively remove any particular positive or negative samples from the range. In fact, extracting a frequency range of the samples of Tsukahara et al. means that any samples, whether positive or negative, falling within the frequency range will be extracted. Thus, the extractor 11 and the extraction process of Tsukahara et al. does not disclose or suggest removing all positive or all negative samples of a Fourier transformed digital samples of a modulated input signal, as recited by the pending claims.

Because Tsukahara et al. does not disclose an envelope curve of a modulated input signal in the time domain or removing all negative frequency samples or all positive frequency samples from Fourier-transformed digital samples of a modulated input in the time domain, Tsukahara et al. does not anticipate claims 1, 4, 5, 10-13, 18-20, and 25-34.

CONCLUSION

For the foregoing reasons, the applicant respectfully requests reconsideration and withdrawal of the rejections and allowance of claims 1, 4, 5, 10-13, 18-20, and 25-34.

Entry and consideration of the foregoing amendments and remarks are believed to be proper and are solicited. The amendments are necessary to place the application in better condition for allowance or for appeal and could not have been presented earlier as they are being made in response to a rejection first raised in the most recent official action.

If there are matters that can be discussed by telephone to further the prosecution of this application, the applicant respectfully requests that the examiner call its attorney at the number listed below.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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